

AMENDMENTS TO THE CLAIMS

A detailed listing of all claims that are, or were, in the present application, irrespective of whether the claim(s) remains under examination in the application are presented below. The claims are presented in ascending order and each includes one status identifier. Those claims not cancelled or withdrawn but amended by the current amendment utilize the following notations for amendment: 1) deleted matter is shown by strikethrough for six or more characters and double brackets for five or less characters; and 2) added matter is shown by underlining.

1. (Currently Amended) A method for identifying ~~rare events~~proliferative disorders in a biological sample, comprising:

~~obtaining a source of cells;~~ contacting ~~[[the]]~~ an obtained source of cells with a binding agent specific for a cell specific marker associated with a ~~rare event~~ proliferative disorder and expressed by at least some of the cells, wherein the binding agent is bound to a magnetic bead and wherein the binding agent binds to cells in the source expressing the cell specific marker;

separating cells bound by the binding agent from the source thereby obtaining a sub-population of cells enriched for the cell specific marker associated with the rare event;

placing the enriched sample on a ~~substrate~~microscope slide;

automatically scanning the ~~substrate~~microscope slide at a plurality of coordinates using a microscope;

automatically obtaining a plurality of images at locations on the ~~substrate~~microscope slide that comprise the enriched sample; and

processing the plurality of images to identify the ~~rare event~~proliferative disorder.

2. (Original) The method according to claim 1, wherein the binding agent is an antibody.

3. (Original) The method according to claim 1, wherein the sub-population is enriched for carcinoma cells.

4. (Original) The method of claim 1, wherein the separating is done by positive selection.

5. (Original) The method of claim 1, wherein the separating is done by negative selection.

6. (Original) The method of claim 2, wherein the antibody is monoclonal or polyclonal.

7. (Original) The method of claim 2, wherein the antibody recognizes an epithelial marker.

8. (Original) The method of claim 2, wherein the antibody is selected to avoid cross reactivity with the beads.

9. (Original) The method of claim 3, wherein the carcinoma cells are from peripheral blood.
10. (Currently Amended) The method of claim 1, further comprising:
  - (a) automatically identifying a coordinate of the ~~rare event~~proliferative disorder; and
  - (b) automatically acquiring an image of the ~~rare event~~proliferative disorder, at the location coordinates.
11. (Currently Amended) The method of claim 1, wherein the ~~rare event~~proliferative disorder is detected by immunohistochemistry.
12. (Currently Amended) The method of claim 1, wherein the ~~rare event~~proliferative disorder is detected by in situ hybridization.
13. (Canceled).
14. (Canceled).
15. (Canceled).
16. (Canceled).
17. (Original) The method of claim 1, wherein the cell specific marker is detected by immunohistochemistry, in situ hybridization, staining or a combination thereof.
18. (Original) The method of claim 1, wherein the image is a digital image.
19. (Canceled).
20. (Canceled).
21. (Canceled).

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22. (Canceled).

23. (Canceled).